



Washington Teachers' Union

April 21, 2018, Kellogg Conference Hotel at Gallaudet University

2018 Shared Vision Conference

MATH LITERACY: KEY TO EDUCATIONAL EQUITY

Co-sponsors



Young People's Project



Everyone said sharecroppers didn't want to vote. It wasn't until we got them demanding to vote that we got attention. Today, when kids are falling wholesale through the cracks, people say they don't want to learn. We have to get the kids themselves to demand what everyone says they don't want. Universal math literacy is, or should be, a civil right.

Dr. Robert Parris Moses
Voting Rights Organizer
Founder, The Algebra Project



Washington Teachers' Union

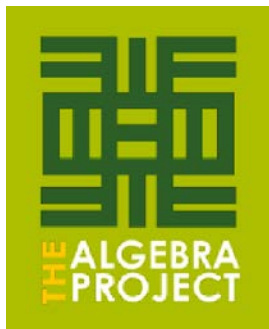
Amplifying the voice of DC teachers

The Washington Teachers' Union (WTU) represents more than 5,000 active and retired teachers in Washington DC. WTU is dedicated to social and educational justice and to providing the best possible educational opportunities for each and every DC public school student regardless of their race, ethnicity or economic class.

We work to improve the quality of support, resources, compensation and working conditions for the public servants and proud teachers who educate our students in DC public schools.

1239 Pennsylvania Ave. SE, Washington, DC 20003 • 202.517.1477

www.wtulocal6.org • Elizabeth A. Davis, President.



The Algebra Project puts students at the center of math learning, allowing them to discover mathematical principles themselves by approaching real world problems using their existing vocabulary and in ways that are relevant to their own experiences.

By teaching math this way, educators discover that students who previously said "I don't do math" begin to see themselves as empowered and capable of learning and doing.

The method flips the script of traditional math education. Instead of learning how to work math problems symbolically and then apply them to the real world, students start with a real world problem, form a sentence describing the principle in their own words and then write the sentence using mathematical symbols.

99 Bishop Allen Drive Cambridge, MA 02139 • 617.491.0200

<http://www.algebra.org/> • Dr. Robert P Moses, President, Founder



The Young People's Project (YPP) was founded in 1996 by a group that included 8th grade students from Jackson, Mississippi. The goal of YPP is to train, employ, and support 1,000 high school students to become Math Literacy Workers (MLWs) over the next 10 years.

MLWs begin their journey by teaching math to elementary students and eventually become prepared to make a difference in their own lives, the lives of others in their communities and ultimately in the nation.

MLWs train younger students in the Flagway Game. Students practice and celebrate learning math. Player navigate a Flagway or course of radial "paths" based on rules derived from the Mobius function. Speed counts, so as students develop into skilled players several may be running through the course simultaneously, creating dynamics similar to that of a sporting event.

99 Bishop Allen Drive # 7, Cambridge, MA 02139 • 617. 354.8991
<http://www.typp.org/> • Maisha Moses



The SNCC Legacy Project (SLP) preserves and extends the legacy of Student Nonviolent Coordinating Committee organizers in order to continue the struggle for freedom, justice and liberty.

Anchored by the Algebra Project and the Young People's Project, SLP is pursuing one of the unfulfilled goals of today's Freedom Movement: Quality Public Education as a Constitutional Right.

A Luta Continua!

1716 Verbena St. NW Washington, DC • <http://www.sccclegacyproject.org/>
Courtland Cox, President.

Washington Teachers' Union Shared Vision Conference: Math Literacy, Key to Educational Equity

8--8:55AM

**Lobby:
Atrium gallery**

**Sign-in
Breakfast/networking**

9—9:55AM

Auditorium

Opening Plenary

Derrick Simmons, Chair, WTU Shared Vision Planning Committee; Elizabeth A. Davis, President, Washington Teachers' Union; Dr. Robert Parris Moses, Founder & President, The Algebra Project; Dr. Sylvia James, National Science Foundation; Dr. Kim Cherry, DCPS Deputy Chief, STEM

10—11:25AM Breakout Sessions

Room 2	Weaving arithmetic and algebra	Metaphors for number lines, place value, and other foundational pieces of mathematics, and how to use them across the K-8 curriculum.	Terri Bucci & Debe Adams, The Ohio State University Math Literacy Initiative
Room 3	Interpreting Student Responses	How we are acquiring evidence of how students actually gain understanding of mathematical concepts.	Aurora Graf & Sarah Ohls, Educational Testing Service (ETS); Greg Budzban, Southern Illinois University at Edwardsville.
Room 4A	Squeezing Calculus from Algebra	Students & teachers can construct real calculus from concepts learned in Algebra 1.	Bill Crombie (Algebra Project, Inc.)
Room 4B-C	Make your own rulers, learn fractions	Understanding fractions through a make-it-yourself game.	Lee McEwain & Kevin Reinthal The Ohio State University Math Literacy Initiative.
Room 5A	Cornrow braiding & exploring geometry	Explore the geometry of cornrow braiding, arcs in Anishinaabe wiigwaam structures, and logarithmic spirals in Adinkra symbols from Ghana, West Africa.	Michael Lachney & William (Bill) Babbitt, Renselaer Polytechnic Institute - Culturally Situated Design Tools
Room 5B	The Modern Classroom Project	Developing a classroom model that prepares students for the future economy; one that uses technology to prioritize self-direction and awards people for competency.	Kareem Farah
Room 6A,B,C	What's Flagway and why do kids love it?	A demonstration for teachers about how students learn basic math concepts through a game in which they guess, conjecture, and reflect on options and tie these mental operations into physically racing.	Marquis (Keke) Lowe, the Young People's Project
Room 7 (Tiered classroom)	Walk through city roads; learn "function."	An introduction to functions for middle school teachers via concrete experiences and tablets	Sharita Underwood & Lajuana Blackshear, Atlanta Algebra Project/Young People's Project
Executive Boardroom	Writing for voice and action	National Writing Project leaders and participants will reflect on ways—small and large—to engage their students powerfully in writing. Emphasis will be on ideas for practical activities.	Laura Roop, Kellee Jenkins, Shirley Turner

11:30-12:55

Ballroom

Box lunches; discussions about take-aways from morning sessions; there will be a facilitator at each table.

1:00---2:25PM**Breakout Sessions**

Auditorium	WTU Teacher Leader Program participants dig deeply into vital subjects		Monica Brokenborough <i>Waking Teachers Up-Engaging Union Members at Ballou High</i> ; Tiffany James <i>Learning Together to Accelerate our Practice or Losing Educators at an Accelerated Pace?</i> ; Ashley Spikes <i>Teachers: A Face in Education or Face the Truth (Turnover in Charter vs. Public Schools)?</i> ; Kenneth Neat <i>Helping Parents Become More Adept in Helping their Children Reach Academic Success</i> ; John Dixon <i>The Impact of Impact</i> ; Karen Child; <i>Leveling the Playing Field: Equity from the Start</i>
Room 2	Math through play in early childhood education.		Young children learn math naturally through play. We will explore hands-on ways to create these opportunities. Rhonda Ferguson
Room 3	Thinking Math, K-2		Classroom activities to build number sense, help build the link between conceptual and procedural knowledge and to get students to talk about their mathematical thinking. Jeanne Wright
Room 4A	National Student Bill of Rights		How students are taking ownership of the education that is preparing them for the 21 st century knowledge-based economy. Baltimore students Ivan Roberts & Jonathan Gray.
Room 4B	The Modern Classroom Project		Developing a classroom model that prepares students for the future economy; one that uses technology to prioritize self-direction and awards competency. Kareem Farah
Room 4C	Community Schools		Bringing together academics, health, social services and community engagement to improve academics and build stronger families and communities Shital Shah
Room 5A	Measuring what we value instead of valuing what we measure		The gaps in college attainment by population groups, and what can be done to close them. Michael Nettles, Educational Testing Service
Room 5B	Make a wind-up, develop a new curriculum		Make a wind-up from recycled materials and develop troubleshooting techniques and science concepts. Learn how this activity leads to curriculum integration in two low-income NYC public schools. Kathy Gutierrez, Gary Benenson, & Onika Blue, City Technology
Room 6A, B,C	Planning session: organizing a DC Flagway League		Flagway brings together high school and college age Math Literacy Workers and teams of 5 - 10 5th and 6th graders (players) who participate in a math-based game. Marquis {Keke} Lowe, Young People's Project
Room 7 (tiered classroom)	STEM 4 US		Turning students on to cybersecurity, data analytics and artificial intelligence; video, drone presentation. Talib I. Karim
Executive Boardroom (upper level, next to tiered classroom 7)	Meeting of lawmakers and their representatives: DC Mayor, Councilmembers, SBOE members		Discussion of legislation needed to fulfill the promise of DC schools. WTU President Elizabeth Davis; WTU Boardmember Terence Ngwa; AFT Rep Rob Weill

2:30-3PM Ballroom Closing Session
President Elizabeth Davis, Dr. Robert Moses

After closing session: press briefing with President Davis and Dr. Moses



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WTU Executive Board

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STEM4Us
United HealthCare